WHAT IS CLAIMED IS:

1. A fiber optic gyroscope comprising:

a loop closure electronic circuit, said loop closure electronic circuit generating a first phase step signal for determining a rate of rotation;

a color noise suppression module coupled to said loop closure electronic circuit, said color noise suppression module generating a randomized phase jump amplitude signal; and

an accumulation point, said accumulation point summing said phase jump amplitude signal and said first phase step signal, thereby creating a feedback signal for said fiber optic gyroscope.

2. The fiber optic gyroscope of claim 1, wherein said phase jump amplitude signal comprises a second phase step.

3. The fiber optic gyroscope of claim 1, further comprising a data output point for outputting a rate of rotation signal from said fiber optic gyroscope.

4. The fiber optic gyroscope of claim 3, wherein said data output point is coupled to an inertial navigation system.

5. The fiber optic gyroscope of claim 1, wherein said the color noise suppression module further comprises a bias modulation module, said bias modulation module modulating said feedback signal.

6. The fiber optic gyroscope of claim 1, further comprising:

an analog-to-digital converter, said analog-to-digital converter converting said phase step signal from an analog signal to a digital signal; and

a digital-to-analog converter, said digital-to-analog converter converting said feedback signal from a digital signal to an analog signal.

7. The fiber optic gyroscope of claim 1, further comprising at least one amplifier for amplifying at least one of said first phase step signal or said feedback signal.

8. A fiber optic gyroscope with color noise suppression, said fiber optic gyroscope comprising:

an electro-optic crystal phase modulator, said electro-optic crystal modulator generating a modulated signal;

a first phase jump signal added to said modulated signal;

a photo detector coupled to said electro-optic crystal phase modulator, said photo detector detecting said modulated signal;

an amplifier coupled to said photo detector, said amplifier amplifying said modulated signal;

an analog-to-digital converter, said analog-to-digital converter converting said modulated signal to a digital modulated signal;

a phase jump amplitude and timing controller, said phase jump amplitude and timing controller generating a randomized phase jump amplitude signal, said phase jump amplitude signal being combined with said modulated signal to create a feedback signal; and

wherein said feedback signal is coupled to an input of said electro-optic crystal phase modulator.

9. The fiber optic gyroscope of claim 8, wherein said phase jump amplitude signal comprises a second phase step.

10. The fiber optic gyroscope of claim 8, further comprising a data output point for outputting a rate of rotation signal from said fiber optic gyroscope.

11. The fiber optic gyroscope of claim 10, wherein said data output point is coupled to an inertial navigation system.

12. The fiber optic gyroscope of claim 10, wherein a feedback signal amplifier is coupled between said feedback signal and said input of said electro-optic crystal phase modulator, said feedback signal amplifier amplifying said feedback signal.

13. A method comprising the steps of:

creating a plurality of phase steps for determining a rate of rotation signal in a fiber optic gyroscope;

accumulating said plurality of phase steps to create an accumulated phase step signal;

creating a randomized phase jump amplitude signal for enabling color noise suppression; and

summing said phase jump amplitude signal with said accumulated phase step signal to create a feedback signal for said fiber optic gyroscope.

14. The method of claim 13, further comprising the step of supplying said feedback signal to a feedback loop, said feedback loop being connected to said fiber optic gyroscope.

15. The method of claim 13, further comprising the step of selectively enabling or disabling color noise suppression.

16. The method of claim 15, further comprising the step of skipping at least one signal sample if said color noise suppression is enabled.

17. The method of claim 15, further comprising the step of outputting said rate of rotation signal if said color noise suppression is disabled.

18. A method for suppressing color noise in a fiber optic gyroscope, said method comprising the steps of:

providing a plurality of feedback signals for a loop closure circuit in said fiber optic gyroscope;

selectively enabling or disabling a color noise suppression status;

adding a phase jump amplitude signal to at least one of said plurality of feedback signals if said color noise suppression status is true, thereby altering said at least one of said plurality of feedback signals, thereby creating an altered feedback signal; and

providing said altered feedback signal to said loop closure circuit.

19. The method of claim 18, further comprising the steps of:

accumulating said plurality of feedback signals to create an accumulated signal; and

determining a rate of rotation from said accumulated signal if said color noise suppression status is disabled.

20. The method of claim 19, further comprising the step of outputting said rate of rotation to an inertial navigation system.